THESIS FOR THE DEGREE OF DOCTOR OF MEDICINE.

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SHORT HISTORICAL SKETCHES OF AYUR

VEDIC OR HINDU SYSTEM OF MEDICINE.

AND

OF UNANI OR(MAHOMEDAN) SYSTEM OF MEDICINE.

C O N T E N T S.

F I R S T P A R T.

MEDICAL PRACTICE AND ADMINISTRATION IN HIS HIGH--NESS THE NIZAM'S DOMINIONS.

The principal systems of Medicine practised at the present day are:-

Firstly - The European system.

SECONDLY - The Graecian or Unani system.

THIRDLY - The Ayur Vedic, and

FOURTHLY - The highly undefined, although by no means the least common, system, viz: A composition of several of these different systems.

In speaking of the European system of Medicine, I shall content myself merely with a description of the Administration of the Medical Department of His Highness' Government, a Department which is exclusively supported by the State, and which is patronised by the great majority of the English educated inhabitants and their imitators.

The Department was first constituted in the year 1840 under Dr.Mc.Lean, the then Residency Surgeon. At that time, there were no Allopathic Practitioners in the

State

State of Hyderabad, except the Residency Surgeon and the Medical Officers and Subordinates belonging to the British Garrison at Secunderabad, six miles north of Hyderabad.

In these early times, only the European and Eurasian inhabitants of Hyderabad availed themselves of our system of medicine: the bulk of the people still adhering to the other systems of treatment.

The story of the Establishment of the Department is interesting. In the year 1840 (1257 Hijri), His Highness Nasir-ud-Dowlah was suffering from a urinary complaint. On the occasion of a ceremonial visit, General Hastings Fraser, the then Resident at the Court of Hyderabad, noticed that the Nizam was lacking his usual cheerfulness. The Resident inquired after his health, and, in the course of conversation, His Highness referred incidentally to the English system of medicine in its treatment of urinary complaints. The Resident said if His Highness was pleased to order, a European physician would at once be sent to the Court to attend on His Highness, and the latter consented. This was the first introduction of the European system of medicine into Hyderabad. From the symptoms noticed by Dr.Mc.Lean, it appears that His Highness was suffering from some form of Calculus and Diabetes. His Highness

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had told the Resident that no medicine either in solid or liquid form would be taken by him, nor would he submit to any external application, relating at the same time the well-known story of Hakim Alawee Khan of Delhi, physician to the Court of Nadir Shah of Persia. Nadir, who suffered from neuralgia and had failed to obtain relief from the nostrums practised in those days in Persia, asked Alawee Khan to relieve the pain by his medical skill, the conditions being that the patient would neither take internally nor apply externally any medicine. This worthy prepared a fan, apparently containing the leaves and twigs of aromatic plants found in the jungles and hills of the country. By a to-and-fro movement of the fan, the Hakim made the patient inhale the volatile principles of the plants which, acting on his excited nerves, at once gave relief to the neuralgic headache. Following the same method of treatment, and adhering to the conditions imposed by His Highness, Dr.Mc.Lean began to regulate the diet of his royal patient, the result being a considerable relief within a short time.

After this experience, the Nizam ordered the Establishment of a Medical School for the training of the Natives of the country in the art of healing, and this

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formed the neucleus of one of the principal Departments of the State.

The present Medical School was established in the year 1846. The students were taught in Hindustani and as it was difficult to translate properly the technical language of Science into the Vernacular, the instruction was practically of a very elementary character and those instructed did not undergo any systematic training such as we understand by the term. The only translations of that period I have seen are those of Anatomy and these are by no means perfect. At present the instruction in the School and Hospital is given in English, and instead of one or two men teaching all the subjects, there is a separate lecturer for each subject and five of these are qualified men, holding the Edinburgh degrees in Medicine and Surgery. Under this staff, a systematic course of study, embracing all the subjects, is pursued for 5 years. At the present day the total number of students of the different years is 111, 100 being males, and 11 females. So far as I have been able to ascertain the classes and cliniques are mixed. The male students do not get any practical training in Midwifery. Firstly, because the seclusion of women or the so-called Zenana system, which is observed both by Mahomedans and Hindus does not admit of the attendance of male Practitioners on female patients, the whole practice of

Midwifery

Midwifery being practically in the hands of Dais or native accoucheusses who are chiefly Hindus or Dhers. They receive no training, and whatever good or bad they do is by the light of their own experience and the hereditary knowledge of the art which they are supposed to possess. Secondly, because the majority of the Enceinte prefer being delivered by their family Dai, or by an old neighbour of mature experience in that line, rather than by a properly trained nurse. Some of the wealthier and educated inhabitants occasionally call in a trained woman for accouchement.

The method of passing Examinations is entirely by means of written papers, there being neither a viva-voce nor practical examination. It is hoped that this will be rectified in course of time.

In connection with the School, there is a Library, a Museum as well as Chemical and Bacteriological Laboratories. The Bacteriological Laboratory is under the superintendence of an Edinburgh graduate, who received his training in Koch's Laboratory. The investigations carried on here are at present confined to plague, malaria, etc. A report regarding the plague work executed in this Laboratory has been submitted to the Plague Commission.

His Highness the Nizam's Medical Department is under the Residency Surgeon, who is also the Director, the Principal of the Medical School, Surgeon and Physician to the

Afzul Ganj Hospital, Lecturer on Clinical and Theoretical Surgery, as well as Superintendent of Vaccination, of Medical Stores and Laboratories, and Plague Commissioner for His Highness the Nizam's Dominions. Impossible as these multifarious duties may appear, they are not exhaustive. The Director is also Physician to His Highness the Nizam, to the Salar Jung family, to the Prime Minister as well as other Nobles of the State and withal finds time for carrying on a thriving general and Insurance practice.

Immediately outside the City gate is the Principal Hospital, viz: Afzul Ganj, which accomodates about 72 male and female patients. The building is quadrangular in shape, with a large circular fountain and a garden in the centre. Two sides of the quadrangle are devoted to the accomodation of male patients, the operating theatre and the microscope room for the diagnosis of cases and the examination of specimens taken from the adjoining operating theatre. The wards on the south side of this quadrangle are devoted to the female patients, medical surgical and accouchement. Many of the female patients observe Zenana, i.e., they do not appear before a male stranger or a distant relation. The female ward is presided over and managed by females who are trained in the local Medical School.

This convenience for Parda Nashin females is of re-

cent

-cent addition to the Hospital and is taken much advantage of by women of the poorer classes.

a Nursing Establishment is attached to the Afzul Ganj Hospital. The Nurses generally belong to the Eurasian community and are trained locally. This department is headed by a European lady trained in one of the London Hospitals.

In different quarters of the City of Hyderabad and its suburbs, there are Dispensaries each of which is presided over by a Medical man trained in the local School. Some of the larger Dispensaries have a "Lady Doctor" for the female patients, in addition to the Hakim - a term applied to the graduate of the local Medical School.

In these Dispensaries there is no accomodation for inpatients. They are used merely as outpatient Departments of a Hospital, where the practitioner examines the patient diagnoses the case and prescribes. The prescriptions are compounded in the adjoining room free of cost. The medical attendants of the Dispensaries, so far as I am aware, do not visit the poor as is done in Edinburgh, and there are no students attached to the Dispensaries for learning practical work.

Besides the Afzul Ganj Hospital, there is the Residency Dispensary situated near the Residency, being the only institution of its kind within the Residency limits.

It

It is well attended in the Out-patient Department. It can accomodate 18 patients and is managed by an Assistant Surgeon from the British Service under the direction of the Residency Surgeon. So much for the Hospitals and Dispensaries of Hyderabad and its suburbs.

Secunderabad, which is six miles from Hyderabad, is a very large British Cantonment. There, almost every Regiment has its own Hospital and Medical attendant. For the general public, there is a Dispensary under a Civil Surgeon of the Station with an Assistant, both belonging to the Indian Medical Service.

In the Districts of Hyderabad, i.e., in country towns and villages, there are Out-door Dispensaries. In larger country towns these Dispensaries can accomodate some in-patients. Their principal work however is out-door treatment of patients, something after the same style as the Dispensaries in the Capital city.

The District Dispensaries are 67 in number scattered throughout the Dominions. Most of the practitioners working in these Dispensaries are men trained in the local Medical School. Female physicians are attached to two of these. All the Dispensaries are under the superintendence of two Inspectors (men of local training), and subject to to the control of the Director.

The Medical men in charge of these Dispensaries also act

act as Civil Surgeons, Surgeons to the Jails, and are Sanitary officers of the villages or towns (as the case may be) in which they are posted.

There is a Depot of Medical stores at Hyderabad to supply drugs and surgical appliances to the Hospitals and Dispensaries. The drugs and other appliances are obtained direct from Europe or from wholesale merchants in Bombay.

Each and every Hospital and Dispensary throughout the Dominions is kept up by His Highness the Nizam's Government. There are no public donations or grants from the local nobility or gentry.

Besides the Hospitals and Dispensaries mentioned above, there are 17 Military Hospitals under their respective Regimental Surgeons, the majority of whom have been trained in the local Medical School. They are all under the directorship of a "Staff Surgeon", who is a graduate of the Edinburgh University and a native of India.

There are no competitive examinations for the medicals entering the Civil and Military Departments.

Besides the men who have been trained either in the local Medical School, Madras or Edinburgh; there are men practising at present who are supposed to have acquired their medical knowledge either from their fathers or by apprenticeship to an imperfectly trained man or by perusal of meagre translation of works on Theraupeutics and Mater-

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-ia Medica. They are supposed to practice the Allopathic system of medicine. Occasionally we are honoured by an adventurous visit from an "M.D."? One of these individuals poses on the credulous public as a Specialist from across the Atlantic. Another starts with a great flourish of trumpets and advertises himself as a Turkish, Persian, French or Greek Doctor, and pretends to have cured or to be able to cure all sorts of diseases or to have specific aphrodisiacs that are unfailing in their potency. Occasionally one observes on the public road a sign board and a list of almost all chronic and incureable diseases which the Advertiser is capable of curing, either by the administration of some patent preparation or the application of some wonderful form of electricity which is practised in some Institute unknown to the Medical profession.

These practitioners of the healing art advertise themselves and their nostrums profusely and do a great deal of positive harm, there being no law against quackery in the Hyderabad State. In other parts of India one often reads of such remarkable members of the profession being sent to Jail for obtaining money under false pretences.

Part Second.

I shall now briefly describe the Ayurvedic or the Hindu system of medicine which in Hyderabad is to this day a powerful rival of both the English and the Unani or Mahomedan Systems.

In this system Soma & Rudra two vedic deities occupy the same position as Aesculapius does amongst the Greeks. The first mention of medicinal agents is in the Veda. Water is the foundation of this system of medicine,water being supposed to contain medicinal herbs.

In the Vedas,the Aswins, the twin children of the sun were the physicians & many remarkable cures including blindness are attributed to them. Laterly the Code of Manu makes mention of physicians. This great Hindu Law-Giver however classes them with those who worship images for gain & meat-sellers ---- (Butchers). Evidently he does not consider them members of an Honorable society. But he speaks well of the use & value of drugs in disease. This Code is responsible for starting the idea exist-ing in India to this day,that certain precious stones when worn on the body,are affected by poisons taken by the wearer & indicate such poisons by changing color. Extraordinary powers are attributed to the drug Ambrosia which is alleged to have been -- churned out of the Ocean. The story of the churning of the Ocean is told in the Mahabharata,the great Hinu Epic.The Gods who had failed to obtain the Ambrosia from the Ocean,made the mountain Mandara into a churn & they wound up round this the great serpent

Vasuki by way of a Churning cord. The Gods then set to work,and wonderful treasures came out of the agitated waters,the last -- being the sage Dhanvantri,the Physician who carried a white jug containing the coveted drug.

The oldest existing treaties on Ayur Vedic medicine is by Atri called Atri-Samhita- The scene of this book which is a dialogue between the Guru & his pupils,is laid on the Northern slope of the Himmalayas. The Guru says that the science of Medicine is so extensive that it cannot be communicated within the life-time of a single human being,& that his pupils should content themselves with the briefest accounts of his own compositions which he describes in fifteen hundred verses.

Atreya- Samhita treats of the following:-

The First Division- Diseases curable, 2nd. Incurable, 3rd. curable by charms, 4th. curable with difficulty or scarcely curable. This division also treats of the ethics of Medicine,the Physical influences,of soil,seasons,age,temper & winds.

The Second Division.of the book called Arishtaka treats of, 1st. Aetiology of disease in relation to moral causes. All diseases curable as well as incurable arise from men's actions and resemble hell. Different crimes receive different -- punishments,for example, the murderer of a

Brahmin is afflicted with Jaundice, the assassin of a king with consumption. The second chapter of this division treats of dreams & their solution, and the third of lucky & unlucky symptoms.

The Third Division of the book is called Chikitsita (medical-treatment). This portion of the book largely treats of diseases & their treatment in detail. The Malarial fevers are divided into Intermittant, Remitant, Tertian & Quotidian. Long discources occur on diarrhoea, dysentry, & allied diseases. Indigestion & flatulency with their causes & symptoms, the sound & unsound condition of the alimentry systems, the digestive mechanism (digestive fire), pains in the stomach caused by overeating or eating unsound food, Insomnia, fatigue, sorrow, consumption & various hemorrhages are all treated SERIATIM, and the last Chapter of the division winds up with poisons & their antidotes.

The Fourth Division of the book treats of water & its different kinds, Viz. Water of the Ganges (which comes from Heaven) Salt-water, Rain, Rain from -- thunder-clouds & waters from melting ice &

&snow. This part also treats of Hydropathy.

The fifth division of the book treats of Dietetics commencing with the Physical & medicinal properties of milk. It differentiates between the milk of cows,goats,ewes,buffaloes,camels & women--lastly it speaks of butter milk at length. Then follow sugar-cane,sour gruel & infusions prepared from rice,barley & other grains.The second chapter treats of the physical & medicinal properties of rice & other grains. the third of the use of fruit & their properties.The fourth of the physical & medicin-al properties of oils prepared from Tila - Flax & castor oil seeds. The fifth chapter treats of the spirituous liquors as prepared from Molasses,Meale-honey & Log-wood. the sixth refers to quadrupeds,reptiles,fishes & bears & the medicinal use of their flesh.The remaining portion of the contents of this part of the book treats of dietetical rules prescriptions & also discusses the properties of food prepared from various complex compounds of the food-stuffs spoken of above.

The sixth division of the book (the original being divided into six books only) treats of physiology of the

of the senses of taste which are six in number Viz:- Sweet,Bitter,Salt,Astringent,Sour & pungent.

Besides the Atreya-Samhita,-- there is Susruta's Ayur-Veda. This is regarded as the Standard work on Ancient Hindu Medicine. Next in antiquity to the Atreya-Samm -hita is the Samhita of Charaka which is sup -posed to cover a larger field of interest than the two works spoken of above.Charaka seems to have been a man of great attainments He strived to teach how to preserve the body in such a state ,as to avoid the worldly -- pains & obtain Eternal happiness. Charaka sattes that originally the contents of his work were taught by Atri or Atreya to Agnivesa & this latter was the teacher of Charaka The work of Charaka consists of 120 chapters divided into eight parts.

The first division of Charaka Samhita is called Solakasthana and consists of thirty chapters.

Chapter 1 relates to the origin & contents of the work.

Chapters 2,3,&4 treat of Medicinal plants & their properties.

Chapters 5,6, and 7 treat of Dietetics.

Chapter 8 treats of the senses & the elements to which they correspond.

Chapters 9 & 10 are on Medical Ethics & the behaviour of a medical man towards his patients.

Chapters 11 & 12 treat of how to obtain long life & counteract influences adverse to long-ivity.

Chapter 13 treats of fat & adipose tissue & the diseases arising from Adiposity.

Chapter 14 treats of Diaphoreses & Diaphoretics.

Chapter 15 is on Medical Appliances & instru-ments.

Chapter 16 treats of the receiving of fees and presents from patients.

Chapters 19 & 20 treat of the Aetiology of diseases.

Chapter 21 treats of the eight defects of the constitution & their influence on health

Chapter 22 treats of fasting Obeisity & the effects of Diaphoreses.

Chapter 23 treats of diseases arising from overeating.

Chapter 24 treats of blood & its affections.

Chapter 25 treats of the soul.

Chapter 26 treats of the different varieties of tastes.

Chapters 27 & 28 treat of the effects of dif ferent kinds of foods & beverages.

Chapter 29 speaks of the Vital Organs.

Chapter 30 is a treatise on the heart & the diseases of that Organ.

The Second Division of the Book is called the Nidanasthana. The first chapter of this division is a treatise on fevers. Chapter 2 is on Plethora. Chapter 3 on the enlargement of the spleen. Chapter 4 speaks of the 20 varieties of the Urinary Diseases. Chapter 5 treats of seven kinds of Leprosy. Chapter treats of the four varieties of Sosha or Consumption. Chapter 7 -- treats of the five varieties of Mania.Chapter eight again speaks of four other kinds of Leprosy.

The third Division of the book is Vimanasthana. The first chapter of this division treats of the effects of the flavours of substances on the body. Chapter 2 treats of the three stages of digestion. Chapter 3 treats of the climatic & religious causes of diseases.Chapter 4 -- treats of the four methods of diagnoses. Chapter 5 is on the composition of the body.

Chapter 6 treats of the diseases in general. (curable, incurable, mental, physical, organic, and accidental) Chapter 7 gives a general classification of patients. Chapter 8 treats of the modes of studying Medicine. The behaviour of Medical students & rules for the conduct of Medical discussions & arguments.

The fourth Division of the book is Sarirasthana. Chapter 1 of this division treats of Purusha the soul & its relation to the body, & the organs of sense as explained in Hindu Philosophy. Chapters 2 & 4 treat of the human foetus its physical & moral development. Chapter 5 -- treats of the soul as a part of the body at birth. Chapter 6 treats of the nature of the natures of the human body. Chapter 7 enumerates all the parts of the body (Anatomy) Chapter 8 is a treatise on generation.

The fifth division of the book called Indriyasthana contains 12 Chapters. The first chapter is on the color of the human face as indicating health or approaching death. Chapters 2 & 3 are on the smells or tastes which forebode death, & the feelings which indicate the approach of -- death. Chapter 4 is on the symptoms by which physicians prognosticate life or death. Chapters 5 to 10 treat of dreams foreboding --

death& other bodily symptoms of the same ch character.Chapter 11 & 12 treat of Omens and other signs indicating death which are independant of the body.

The sixth division of the book called Chikitsithasthana is chief -ly on the therapeutics & consists of 30 ch chapters. Chapters 1 & 2 treat of the Elixirs of life & the modes of their preparations. Chapters 3 to 30 deal with the treatment of the following diseases:- Fevers,Plethora,Enlargement of the Spleen,Urinary diseases,Lep -rosy,Consumption,Mania, Epilepsy, Peculiar diseases of the chest called Kshata Kshina. Swellings & enlargements of Abdomen, Piles, Dysentry,Pallor,Catarrh, Diarrhoea,Vomiting, Erysipelas,Thirst, (perhaps of Diabetes Mel -litus & general.) Poisoning, Madness,Sores, Diseases affecting the chest & head,paralysis of the lower extremities,Flatulency,Gout,Dis -eases of the generative organs.

The seventh division of the book called Kalpasthana corresponds to our Materia Medica & Pharmacopœa. Six hun -dred drugs are mentioned with their classifications, their natural & Geographical distribution.

The eighth & last division of the book called Sidhisthanain its

greater portion treats of the mode of administration of drugs in different diseases & lays particular stress on the use of Emetics Enemas & Purgatives. In this portion one also reads of the use of Intravenous & Hypodermic injections (the latter is doubtful). The 2nd. & the smaller portion of this division treats of diseases caused to the vital cavaties & the organs therein by external injuries. These are supposed to be 107 in number. The third subdivision of this book treats of the uses of Enema & Purgatives in the diseases of the Organs mentioned in the second division.

Susruta,a pupil of Charaka, the Author of the former work flourished after his master & excelled Charaka in Salaya & Salaka. Salaya signifies the art of extracting extraneous substances. In modern medicine this would embrace the excission of tumors & other abnormal growths as well as Lithotomy. Salaka signifies the treatment of external organs as the diseases of the eye, ear,nose &c.

Susruta reckoned Surgery the primier Science in Medicine & he gives his

his reason for doing so by stating that Surgery is less liable than any other branch of medicine to the fallacy of cojectural & inferrential practices. Pure in itself, everlasting in its applicability, it is a worthy produce of Heaven & a certain road to fame. Susruta in his work, which is mainly on Surgery also speaks of the treatment of diseases in general, for example, the management of women & children. He describes many mechanical modes of giving relief in illness, for instance, the use of Horns open at both ends & gourds (Lagenaria Vulgaris Nat.Ord. cucurbitaced) as cupping glasses. The atmospheric air being removed from the inside of the horn, one end of it is placed firmly on the part of the body requiring blistering & suction applied at the other Viz: the narrower end. In using Gourds the air contained in it , is first rarified by the heat of a lamp. Surgical

The Surgical appliances mentioned by Susruta are 101 in number, they include pincers, Some contrivances similar to syringes & other Surgical Accessories such as, twine, thread, or silk for suturing. A kind of

bark or " skin cloth " was used as oil silk. The best & most important of all appliances Susruta declares to be the hand. 20 Surgical Instruments made of metal are also described these,he says,must always be bright polished sharp & handsome,so much so that they might be capable of dividing a hair longitudinally Vagabhata,a contemporary of Susruta says -- that these instruments generally were not above six inches in length,the blade forming about one half or one quarter of that length. Some of the means by which Dexterity in the use of these instruments was attained were as follows:-

The pupils were instructed to practice different kinds of Incissions on flower bulbs Gourds,skins or bladders filled with paste or mire. Scarification was tried on fresh hides of animals from which the Hairs had not been removed.Puncturing or Lancing was tried on the hollow stalks of plants,& ligaturing was practiced on the blood vessels of dead animals. Extractions were tried on the cavaties of dead animals or on fruits with large seeds,such as, the jack fruit,the beal &c. Suturing was practiced on the skin & on

on leather. Bandaging was taught on well made models of human limbs. The teaching of practical surgery on natural objects other than the human body was due to the prejudices attached to the touching of a corpse. Susruta had himself practiced dissection on the human body as he appears greatly in favour of Post-Mortem examinations for acquiring a thorough knowledge of Medicine & Surgery. He strongly recommends dissections of all kinds,& is a warm advocate of the use of the knife & Surgical Appliances instead of Caustics,Emollients & other substitutes. He says that the latter should be resorted to only when specially indicated by the conditions of the patients or the case of Princes,high dignitaries,Old men,children,or patients of nervous & effiminate character. The operations of Rhinoplasty is supposed to have been borrowed from the Hindus. Susruta distinguishes between the ailments caused by external injuries & those produced by vitiated b blood,bile,wind & phlegm or the four combined. A third class of disorders he attributes to emotions such as Rage,Fear? joy,& sorrow. Speaking of the qualifications necessary for a physician or Surgeon,Susruta says,the ju-

judicious alleviations of human infirmities the means for which were compassionately revealed by the Gods, can only be effected by the knowledge which is to be gained from study & practice combined. He who is only versed in books will be alarmed & confused when he is called upon to encounter active active disease. He who rashly engages in practice without previous acquaintance with written Science, will be entitled to no respect from mankind & merits punishment from the king. Those men who in ignorance of the human frame, venture to make it the subject of their experiments, are the murderers of their species. He alone, who is endowed with theory & experience, proceeds with safety & stability like a chariot on two wheels, it is further said that a surgeon or physician should be of strict veracity & of the greatest sobriety & decorum. He ought to be thoroughly learned in all the commentaries on the Ayur Veda, and be otherwise a man of common sense & benevolence. His heart should be charitable, his temper calm, & his constant study must be how to do good. A person with the above qualities & learning can be called

called a true Physician whose object must be self improvement by the study of Scientific books.When a sick person expresses himself peevishly or hastily,a good physician is not to be provoked thereby to impatience.He -- should be mild yet courageous,& should cherish a cheerful hope. A physician is exhorted to be patient,candid,& encouraging. A man may be afraid of his parents,friends, & guru but he must not fear his physician. To consult a physician in illness, is an imperative duty,& a person rejecting a physician(Vaidya) will be punished in Hell. The presence of a physician for the cure of a disease is as in dispensable as that of a pilot for guiding the boat. If a physician is not consulted when a person is ill,he will soon die as a lamp exposed to wind unless protected,is liable to be extinguished. A serious illness is sometimes cured by a good physician taken in time,but a simple disease is prolonged & becomes serious by the want of early attention At the commencement,a disease can be rooted up like a young plant,but as the roots of t the plant ramify & grow,the difficulties of uprooting it are much increased.After this, Sūsruta discourses rather superficially on

on the enquiry into the causes of disease & lays particular stress on overfeeding as a great factor in causing disease. This remark seems to be specially intended for Brahmans who are fond of overfeeding themselves whenever they attend any religious ceremony either for the living or the dead.

Susruta complains of the difficulty of curing either Brahamans or Rajas, for they will not take proper medicines & the physician is p powerless in urging or rather enforcing his instructions upon them. The same is said of women, children, & of old people. He who deceives or lives in the house of a person who despises a physician, cannot expect to be cur -ed.

Susruta says that amongst the essential parts of a man's body are chyle, blood & bone. Good chyle produces good health, & wi with it bravery, strength, & fine complexion & retentive memory. The blood is derived from the digested part of the chyle & being concocted by the bile becomes red. Too little blood makes the skin rough & the blood vessels lax & feeble. Too much blood produces-- fevers & other diseases. This shows some ink -ling into the great truth of the circulation

circulation of the blood. Blood is never deranged by itself, whatever acts on it, first produces its effect upon the air, secondly on the phlegm, & thirdly the bile; then all these in turn act upon the blood & for this reason, the diseases of the blood are curable only through the action of drugs on the humours. Bone is said to be formed from blood & fat, When the essential elements of the bone are deficient in the system, they become painful, the teeth & nails crack & become lo loose & the body becomes dry, this condition corresponding to the Rickets of modern science. The number of bones in the human body is given by Susruta to be 300, by Charaka 306; the difference being as to whether cartilages are to be taken as bones.

We now turn to the nature of temperaments & find a man with too much bile described thus His fortune is bad, his hair soon turns grey, the crown of his head is bald, & his skin -- wrinkles as if by age. He eats much, & dislik -es warm articles of food; He shows temper very soon & is as easily pacified. He is of moderate strength & will not live long. His memory is good, & he is a good man of business., & speaks accurately & to the point.

his appearance is fine,& in company he excels in speaking.

Temperament is affected by climate. A moist country is intersected by rivers: the air is cool,there is abundance of lilies & other w water flowers,Geese,ducks,cranes,fish,& serpants are numerous. In such a place,the inhabitants are unhealthy & short-lived. Diseases of the air & phlegm abound in these - parts,& the inhabitants are fat indolent & weak. In such places the juices of the body require to be dried by the use of hot dry & light food in small quantities so as to -- strenghten the internal fire (Metabolism). In a hot hilly-country where arid plains are covered with dwarf trees & prickly-shrubs, the inhabitants have small muscles & large bones. The diseases of air & bile are most frequent. The climate ishhealthy, the inhabitants are good workmen & long-lived.

Under the head of personal duties of a physician,we find that a Hindu Physician -- first regulates the diet of his patient & then begins the treatment of disease. So much do the Hindu Physicians rely on diet that they declare that most diseases may be cured by following carefully dietetic rules,& if

if a patient does not attend to diet,a hundred good medicines will cure his disease. The majority of diseases are supposed to be produced by derangement of the Humours. If one or more are morbidly increased in quanti-ty, the preliminaries of cure are commenced by promoting the just balance of elements & humours.

In the chapter on Pharmacy it is noticed that, the Hindu physicians participated largely in the error of employing drugs without sufficiently examining their properties. They were under the impression that, the efficacy of the prescription was augmented by multiplying ingredients; In confirmation of this remark, I may refer to an ancient prescription consisting of 46 separate drugs.

Much good advice is given in the ancient Hindu works on choosing herbs. Those grown on the Himmalaya Mountains are amongst the best,as the juices of such plants are usually the strongest. Fresh drugs must be used on all occasions,they must have their proper scent & Aroma. Drugs must be renewed annually. Shepherds,Hunters &c may be employed for the collection of medicinal plants,

But a Brahaman should be preferred especially if he be a Mendicant.It is better & advisable that the physician himself should penetrate the forests & climb Mountains to examine pl plants in their natural situations; & such a physician should not despise the information obtained from shepherds & hunters who may have opportunities of testing the properties of these plants.

In a division of Susruta works on antidotes which is called Kalpasthana Medicinal drugs & plants are arranged as follows:- Tuberous,Bulbous, Roots, Bark of roots,barks of large trees,fruits, acrid astringent & seeds,vegetables,milky-plants, gums & resins. This work appears to give the earliest information of the Geographical distribution of medicinal plants.

When treating of the modes of administering medicines,it is said,that medicines given in small doses are like drops of water thrown upon a large fire which rather increases th than diminishes it. Again if medicines are given in large doses they will be liable to produce other diseases.

In treating of the digestive organs,Susruta says,that Dyspepsia

results when a person is sleepy or in a pass -ion,frightened,grieved or fatigued at the time of eating,or if he sleeps during the day instead of at night,& eats at irregular times Under these circumstances,there is a want of digestive power. It is further said that although a dyspeptic person may think his appetite to be good & take some food,this food does not nourish his body & acts as poison. Some diseases are enumerated under distinct heads,as the diseases of the head & neck, & diseases of the chest including Asthma,Cough & heart disease.

Diseases caused by animal poison & Hydrophobia are also mentioned. The last book of Susruta treats of diseases peculiar to women & children. This part of the book concludes with diseases produced by the advent of devils,which terrible classof disorders is by no means peculiar to women & children. Evil spirits are represented as being always on the watch to seize upon all unguarded persons,except those who are atten -tive to religious performances,& respectful towards holy men. These escape afflictions but the person who omits prescribed ceremonies is taken possession of by any lurking

demon; be it Vaitala, Pisacha or Srisarpa. With all this the ancient Hindu physicians do not seem to have taken a part in the daily lives of the people, as our medical men do in the present day. One seldom reads about them in fiction, history or the field of battle. I think that this omission of their mention is due to the multifarious trades carried on simultaneously, by this class of people. For example a Hindu physician may be a priest, A mendicant, an Astrologer, a bard, a law-giver, a sage, an exhorcist or dispeller of evil spirits, A father confessor & something else besides. After enumerating the above duties, one is not surprised at the absence of a physician from the routine of daily life.-- Even to this day, one sees these hereditary practitioners simultaneously engaged in the above avocations to the exclusion of qualified practitioners. Nevertheless medicine & surgery are facts in ancient India. The treat-ment indicated in certain critical cases s shows that the surgical operation performed were rude & very imperfectly described. It would be interesting to trace the causes of the disappearance of surgery from amongst

amongst the Hindus. This disappearance as far as can be traced is of the comparitively recentorigin. Operative & instrumental practice forms the principal part of those writings which are undeniably most ancient,& wh which are regarded as the composition of inspired writers & are held in the hi/hest authority. In my opinion,the decline & disappearance of Surgery from Hindu Medical prac -tice is due to a large extent to the prevalence of Budhistic Doctrines which regard t the infliction of the slightest pain with the greatest horror.Although Buddhism as a religion has disappeared from India,it has left its mark on the Hindu religion of modern times, in the inordinate regards for life e even of the lower creatures.

PART III.

I shall now deal with the Unani or Grecian system of medicine practised in Hyderabad.

It is well-known that the Caliphs of Bagdad collected around them all the savants and literateurs of their era. Sardis, Persepolis, Damascus, Tarsus, Alexandria and many other schools of learning were laid under contribution and their best Professors made to settle in the Metropolis of Islam. Amongst these learned men we find some Hindu Physicians.

The reign of Mansur who transferred the seat of Government from Damascus to Bagdad was the first period of activity in translations into Arabic of Greek., Syriac, Persian and Sanskrit works. Thus it was in his time that the fables of Bidpai, the Sanskrit original of which had been lost, but which existed in a Pehlavi translation, was rendered into Arabic by a convert of the name of Ibnul-Mokaffa, and may be said to be the chief source of the whole fable literature of Europe.

Besides this great work many important Treatises on Astronomy and Medicine were translated from the Sanskrit including Charakas' work on poisons and Susrutas' Materia Medica.

As

As a home for these Greek physicians, the City of Jun disapur was built, which being thus colonised by learned men, became a celebrated school of Medicine. At this School was educated Gabriel Bactishna, an Assyrian, who went to Bagdad to attend medically upon Almunsur, subsequently became one of the translators of works on medicines from Sanskrit into Arabic.

Greek Physicians were men educated at Greeko-Asiatic Schools of medicine and these were the men who preserved and diffused the ancient medical science of India. This serves as a connecting link between the Greek and the Hindu medical literature. For instance, we find the Greek physician Actuarius speaking very much of the Hindu drug called Triphala. He does not call it a Hindu remedy, but he mentions it to be the peculiar product of India.

The Triphala is really a composition of the three Myrobalans, viz: the Terminalia Chebuca, Terminilia Bellerica, and Phylanthus Embelica, this being considered a remedy of universal application.

Aetrius, who was a native of Amida in Mesopotamia and studied at Alexandria about the end of the 5th Century, not only speaks of the Myrobalans, but mentions it as the proper cure for Elephantiasis, which he notes as a disease common in India.

The presence of Hindus and Hindu sciences at the Courts of Khalifas affords direct evidence of a period, prior to which medical science must have matured in India. Serapion, one of the earliest Greek writers mentions Charaka and his works, praising him as an authority on medicine and referring to Myrobalans as forming a part of Charaka's prescriptions. The Myrobalans which Serapion recommends on the authority of Charaka is the compound Triphala already referred to.

More interesting than Serapion's is the testimony of the famous Arab physician Razes, who was the first to describe sulphuric acid and alcohol. Abu Bekar bin Mohamed bin Zacaria ur Razi originally came from Rai in Persia, where he was born about 850 A.D., and settled in Bagdad in the reign of Al Muktafi. He is described as a learned, liberal and accomplished physician. His practice was extensive, but he devoted his time so largely to the poor that he died in poverty. Almunsur once asked the opinion of Razes as to the qualities of a physician. Razes' reply was that a good physician must be industrious in perusing and examining the works of ancient authors on medicine, and also with this knowledge of books, he should combine extensive practice in large and populous cities, where he would have opportunities of not only treating a great number of patients, but of consulting eminent men of his profession.

If both these qualifications are not combined in a single individual, it is better to be wanting in practice than to know nothing at all about the teachings of the ancients.

Razes wrote 12 volumes on Chemistry, one of them being a treatise on Alchemy. His most important contribution to Medical Science is his account of small pox, which he was the first to discover and describe. On two occasions, Razes refers to Charaka as an authority for descriptions of medical plants and drugs.

Another celebrated physician who succeeded Razes was Avicenna, called Sheikh-ul-Raees or the Prince of Physicians. He was born near Bokhara in the year 980 A.D., his father having gone there with a son of the Almunsur to whom Razes had addressed the advice quoted-above. Avicenna became celebrated at a very early age for the extent of his acquirements in all branches of knowledge, including Dialectics, Geometry and Astromomy. His was a varied career. At one time he was Grand Vizier, at another time a fugitive for his life. He died at the age of 58. He was translator of the works of Aristotle into Arabic.

Speaking of treatment by leeches, Avicenna begins by a reference to what the Indian physicians had said, and quotes the very words of Susruta. He describes six poisonous species of leeches, including the black, the hairy leech, that which exhibits the colours of the rain-

-bow

-bow and another species marked with yellow and black stripes.

In the reign of Harun-ul-Rasheed (786-809), we find not only the medical treatises of the Hindus valued by the Arabs, but Hindu physicians actually living at the Court.

Ibn-i-Osaiba states that Nanka was a Hindu, eminent in the art of medicine, learned in Sanskrit literature. He made a journey from India to Iraq, cured the Khalifa Harun-ul-Rasheed of a serious illness, and translated Charaka's work on poisons from Sanskrit into Persian.

Another native of India, named Saleh, is also spoken of by Ibn-i-Osaiba, who speaks of him as the most learned amongst the most learned Hindus, and greatly skilled in curing diseases, according to the Indian system of medicine. He lived in Iraq during the reign of Harun-ul-Rasheed. Saleh travelled to Palestine and Egypt, where he died and was buried.

Those accustomed to deal with Hindu chronology know well how difficult it is to fix the date of any event or of any work of Hindu origin: and it is only by reference to contemperaneous history that any success can be attained in assigning a particular year to a particular author or work. Thus it is that the translations of Sanskrit works by the Arabs afford us data for fixing the ages of several

several works as those of Charaka and Susruta. Hindu practitioners themselves look upon these works as of equal antiquity with the Vedas, but we are able to judge better, and we know that they are both of comparatively recent origin, although they reveal to us a very advanced state of the healing art amongst the Hindus and suggest the possibility of earlier works of a more primitive nature which formed the ground work of Charaka and Susruta.

The Unani system of medicine as we have seen was a result of the blending together by the Arabs of the teachings of the Hindu and Grecian systems, has much degenerated in Hyderabad. The so-called Unani Hakims of our City are learned neither in Arabic nor in Sanskrit lore. Their stock in trade consists of collections of prescriptions by Hakims of old or of meagre Hindustani translations of Arabic and Persian works on medicine. When spoken to, they betray a lamentable ignorance of the first principles of Anatomy and Physiology. Their diagnosis is of the most primitive kind, and if they fail to do the mischief which their ignorance and methods would justify, it is simply because the drugs which they use are generally so old and dried up that they have lost any efficacy which might have belonged to them when fresh.

It is to be deeply regretted that this effete and

mischievous

mischievous system has during the last few years received official recognition by His Highness The Nizam's Government, and so-called Unani Dispensaries have not only been established in the different quarters of the City but also at the Head Quarters of the Districts.

There can be no doubt that the study of the Materia Medica of the Arabs from its historical interest might prove useful in throwing light on the drugs indigenous to tropical countries, and much useful work in this direction is being done by the German physician Moritz Stein Schneider, who in a series of articles under the name of Heilsmittelname der Araber, published in the Vienna Oriental journal, is examining in detail all the drugs and compositions known to the Arabs. The number of these has reached over 2000, and when complete the work will be of the greatest interest and utility. At the same time the system as at present practised in many parts of India, is fraught with great danger to human life, in substituting not only a wrong treatment for a rational one, but in wasting the time of the patients and preventing their having timely recourse to the Allopathic Dispensaries established by the Government.

In the historical part of the above resume, I have derived considerable assistance from Dr.Lucien Leclerc's Historie de la Medicine Arabes, a storehouse of information

-tion which I would commend to those who wish to pursue this most interesting subject further.

PART IV.

SANITARY ADMINISTRATION OF THE CITY OF HYDERABAD.

The total area within the City Municipal limits is 20.95 square miles, comprising a population of 181,000 souls (a plan of the Municipal area is herewith appended). For purposes of Conservancy and Sanitation, this area has been divided into 7 wards, and these again into sub-wards. The wards and sub-wards are under the supervision of Inspectors, Sub-Inspectors and peons, supported by a large staff of Kamatees (male coolies), women to sweep the streets, and sweepers for cleansing Public latrines. (~~See table A~~). The Inspectors and Sub-Inspectors of the Conservancy Department who are neither educated nor receive any kind of training whatever prior to joining the Department, serve as Sanitary and Nuisance Inspectors. On assuming charge of the Health Department in the latter end of 1894, I found myself in the midst of a Cholera Epidemic which spread to the City from the surrounding villages, which were infected long before. This Epidemic lasted from March till August, the total number of attacks being 559 and the total number of deaths 364. This gives a mortality of 65 %.

I shall here describe a few of the local causes of the Epidemic which were observed by me.

1st. A vast majority of the inhabitants of the City generally

generally, and especially of that quarter of the City bordering on the river Moosi, drank the water of the river, which at this season of the year is nothing but a large sewer, all the drains of the walled City emptying themselves into the river. Owing to the very small stream of water, all the sewage soaks into the bed of the river, which is cleansed only during the Monsoons by the floods.

2ndly, This part of the City lies lower than the other quarters. The majority of the smaller drains are mere excavations in the earth, and, having no proper fall, they silt up very soon, with the result that the sewage soaks into the soil and greatly affects the drinking water of the wells in the locality.

From a series of measurements of the level of sub-soil water, I found that at this dry season of the year, the depth from the surface was between 12 and 16 feet. This column of sewage-impregnated earth, instead of acting as a filter, actually contaminates the water in its passage through. A chemical analysis of the water of these wells shows an excess of free Ammonia and Nitrates.

The predisposing causes are the great influx of the lower order of people from the Districts during the Mohurrum

who

who indulge in the free use of stale and adulterated toddy (an intoxicating beverage obtained by the fermentation of the juice of the various species of the date palm), and the consumption of unwholesome meat. This excess combined with intense heat and dissipation, is sufficient to upset even the digestions of javari (a species of Indian corn) eaters, and to reduce their vital stamina. Strong predisposing causes being present, a bad water supply affords the nidus required for the Cholera germs.

I managed this Epidemic without any trained Assistants or any Isolation Hospitals. Owing to the prejudices of the people, isolation on a large scale being impossible, the very poor and destitute were sent to the Cholera Hospital outside Dabeerpoora Gate. In the previous Epidemic of 1893, the deaths from cholera were 1065. I cannot say anything about this Epidemic as it occurred prior to my appointment as Medical Officer of Health. Since 1895, there has been but one Epidemic of cholera viz: that of 1897.

The improvement in the annual visitation of cholera is due, 1st:- to the greatly improved water supply, that is by means of pipes from Meer Alum tank (an artificial lake 3 miles to the South West of the City), 2nd:- to improved sanitation, that is by the removal of filth stores under my own supervision from gullies and dark unventilated

corners,

corners, and third:- to the improved system of inspection of meat, eatables and beverages.

VITAL STATISTICS.

There is no separate establishment for this purpose and the work is done by the Municipal peons. The data thus obtained cannot be said to be reliable. Invariably the deaths exceed births, and for the last 5 years, I have not been able to observe any appreciable diminution within the Municipal area. The death rate from malarial fever as indicated by the V.S. returns, appears to be very high for the last four years, the average being 2784. The reason for these high figures is to be sought in the habits of the people. Most of them sleep on floors which are not concreted, and in the majority of houses they remain damp at all seasons of the year, due to the absorption of the sewage, which has no means of exit, and as I have said before, most of the smaller drains are simple excavations in the earth running on both sides of the lane or street, adjoining the walls of dwellings, which are invariably built of earth only. - See Tables B and C.

CONSERVANCY DEPARTMENT.

In various parts of the Municipal area, Iron latrines and Urinals are constructed for the convenience of the Public. Some of the Urinals are still unconnected with public drains, the urine being collected in a bucket,

and

and this in turn emptied into the usual iron cart, which conveys its contents to the Night-Soil pits outside the City walls. The latrines are cleaned twice a day, and their contents are also carted to the above pits. The Night-Soil from private dwellings is treated likewise - ~~See Table A.~~

THE CONSERVANCY OF THE BED OF THE RIVER.

The walled City of Hyderabad, as distinguished from the Suburbs, is situated on the southern bank of this river. In former years the bed of the river was used as a huge public latrine. At present there is a staff of peons and sweepers who prevent people from committing nuisances, and the bed is to a certain extent kept clean, but the river receives almost all the sewage and drainage from the City on its southern bank and other thickly populated areas along its northern bank. Higher up the stream, all the drainage from the paddy fields also finds its way into the river. As far as I am aware, ~~its~~ now its waters are not used for drinking purposes.

CLEANSING OF PRIVATE LATRINES.

Within the Municipal limits, there is no water carriage system. The predominating system is that of Cesspools, i.e., a ditch a few yards square is excavated in the earth, is roofed over, only a small longitudinal aperture being left where the user deposist the night soil:

the

the urine and the water from ablution find their way into this closed chamber and accumulate there for a certain period. When full, the roof is uncovered and the fermenting contents removed. The plan is now discouraged, and the pail system has been recommended instead. The Night-Soil from the latrines is removed by sweepers and deposited in the carts stationed at the public latrines. These carts convey their contents to the Night-Soil pits.

CLEANSING OF DRAINS.

Large main drains of masonry are situated only within the ramparts. They are self-cleansing, but there is a great dearth of masonry drains in the lanes and streets and especially in the thickly inhabited quarters outside the walled area.

WATER SUPPLY.

Thanks to the energy and public spirit of the present Secretary of H.H.The Nizam's Public Works Department, Shams-ul-Ulama Syed Ali Belgrami, who also presides over the Municipal Government of the City, the whole of the City and the greater part of the Suburbs have been supplied from Meer Alum tank. This supply of pure water has removed the main cause of the spread of cholera and other diseases, especially Guinea-Worm. There is a large number of public hydrants on the roads and the poor can get an ample supply

of

of pure water without any trouble or cost. Nearly the whole of the Municipal area is supplied with pipe water.

SLAUGHTER HOUSES AND MEAT INSPECTION.

All the slaughter houses, although under control of the Municipality, are owned by private persons. All of them are constructed according to a given plan sanctioned by the Municipality, and are daily cleansed by the owners. The refuse and offals are carried away to the night-soil pits.

LEPER ASYLUM.

There are no figures to shew the actual number of Lepers within the Municipal limits, but it is sufficient to say that they are to be encountered all along the main streets of the City, exposing their afflictions and soliciting alms. They mix freely with the healthy population and many of them dwell with healthy people; others who are destitute, find lodgings in the vacant shops or ruined houses. There is no legislation to prevent them from intercourse with the healthy, nor is there any asylum for them to be detained in.

There are records to shew the necessity of such an Asylum, and it has been demonstrated that Leprosy has disappeared from those countries where isolation has been adopted from very early times. Density of population, poverty, consumption of bad food, overcrowding in huts and small

houses

houses, and last but not least, neglect of personal hygiene and contact with a leper favour the contagion. I firmly believe that the disease is on the increase, for one sees these unfortunates in increasing numbers on the road side.

NECESSITY OF A POOR HOUSE.

There are hundreds of persons going about the City who have made begging their chief profession and spend the money so obtained in smoking Opium, and in practising other vices in crowded ill-ventilated and damp dens. As a rule, this fraternity is not particularly observant of the cleanliness either of their persons or of their surroundings. There ought to be some legislation for making begging a misdemeanour for able-bodied men, although in the present state of Hyderabad Society, this seems an impossibility. Not only is street-begging encouraged by the higher classes of Mahomedans and Hindus, by means of a liberality entirely out of proportion to the object, but the persons of these professional mendicants are regarded as sacred, and it is almost impossible to get the lower orders of servants to turn out beggars from the door, the curse of the beggar being one of the most dreaded objects amongst these ignorant and misguided people.

Others of the mendicant class are infirm, congenitally deformed or aged; these, for the purpose of begging, freely expose their deformities. Their infected and infested at-

-tire

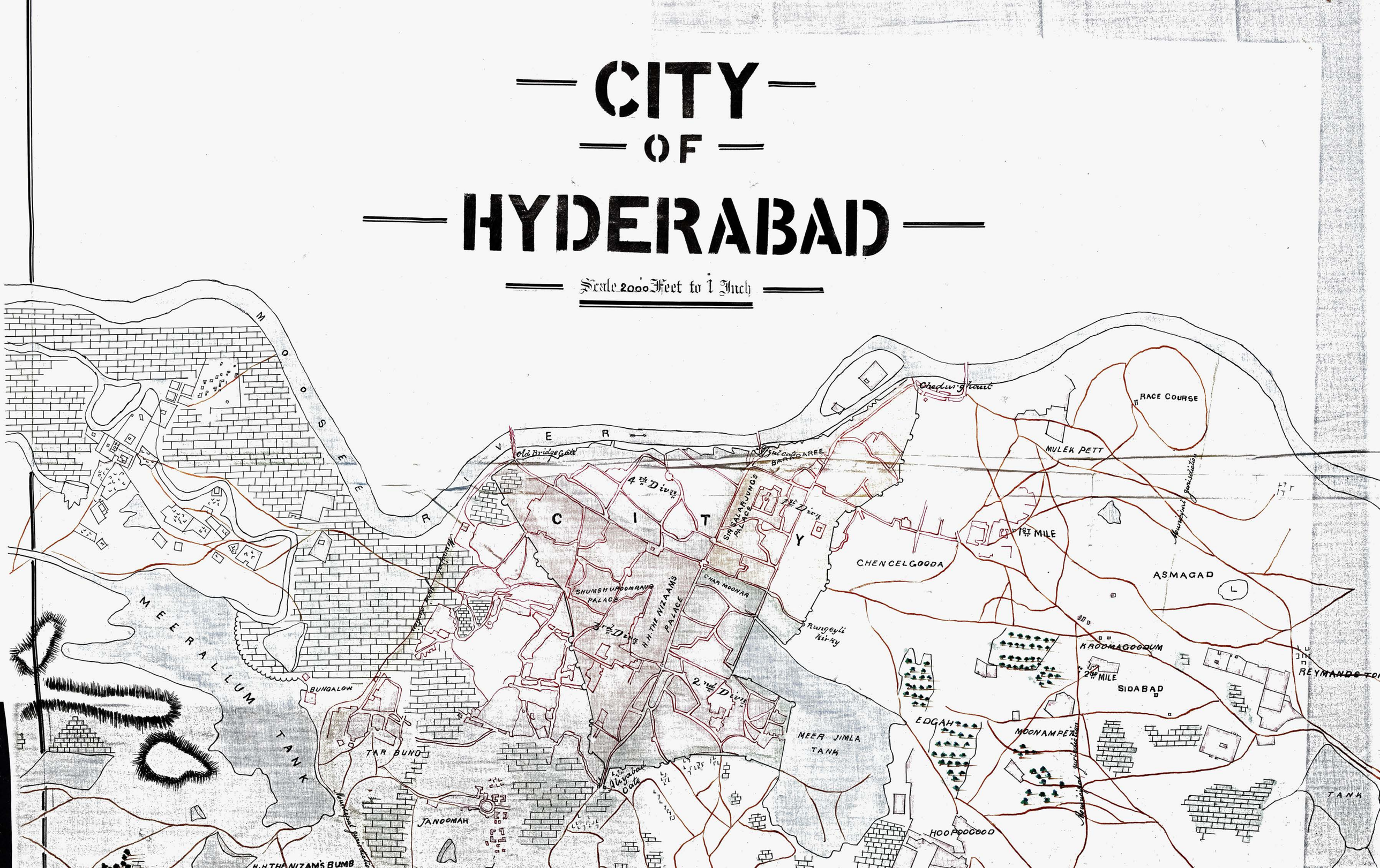
-tirs of rags and their utter neglect of personal hygiene is better imagined than described. A proper regulated poor house would afford shelter to the destitute and infirm, and enable them to spend the rest of their lives in peace instead of/in misery, and further another source of the propagation of disease would be abolished. It has been strongly advocated that fomities and soiled clothes are a great source of the spread of infection, especially in epidemic diseases, and the same theory holds good in the case of contagious diseases.

CONCLUSION.

In conclusion, I would submit that, during the period of five years since my return, I have made extensive notes on the subjects treated of in this thesis, but owing to the limited space generally allowed to such compositions, I have been obliged to considerably curtail the material at my disposal.

CITY OF HYDERABAD

Scale 2000 Feet to 1 Inch



C I T Y

4th Drive

3rd Drive

2nd Drive

SIR SALAR JUNG'S PALACE

SHUMSHUDDOMRAUS PALACE

H.H. THE NIZAMS PALACE

CHAR MOONAR

Rungeyli Nulla

MEER JIMLA TANK

Municipal jurisdiction

Aliyabad Gate

TAR BUND

BUNGALOW

JANOOMAH

H.H THE NIZAM'S BUMB

VADIPALLY

NAWAB VECARUL OOMRAHS PALACE

JANGUMET

6th MILE

CHENDAROYEN GOOTTAH

5th MILE

4th MILE

3rd MILE

2nd MILE

1st MILE

CHENCELGOODA

ASMAGAD

KADDAMGOODUM

SIDABAD

EDGAH

MOONAMPET

HOOPOOGOO

BALAPOOR

UNNARUM

REYMANDS TOMB

FORT

TANK

SURRUNDUGOUR

SIRSALARJUNG'S GARDEN

CHUMPAPETT

OOL ROAD

8th MILE

7th MILE

Area

City 3.84 Sq Mile

Suburbs 17.11 "

M.B.C.M.B.S. & E. Dip. F.R.I.P.H

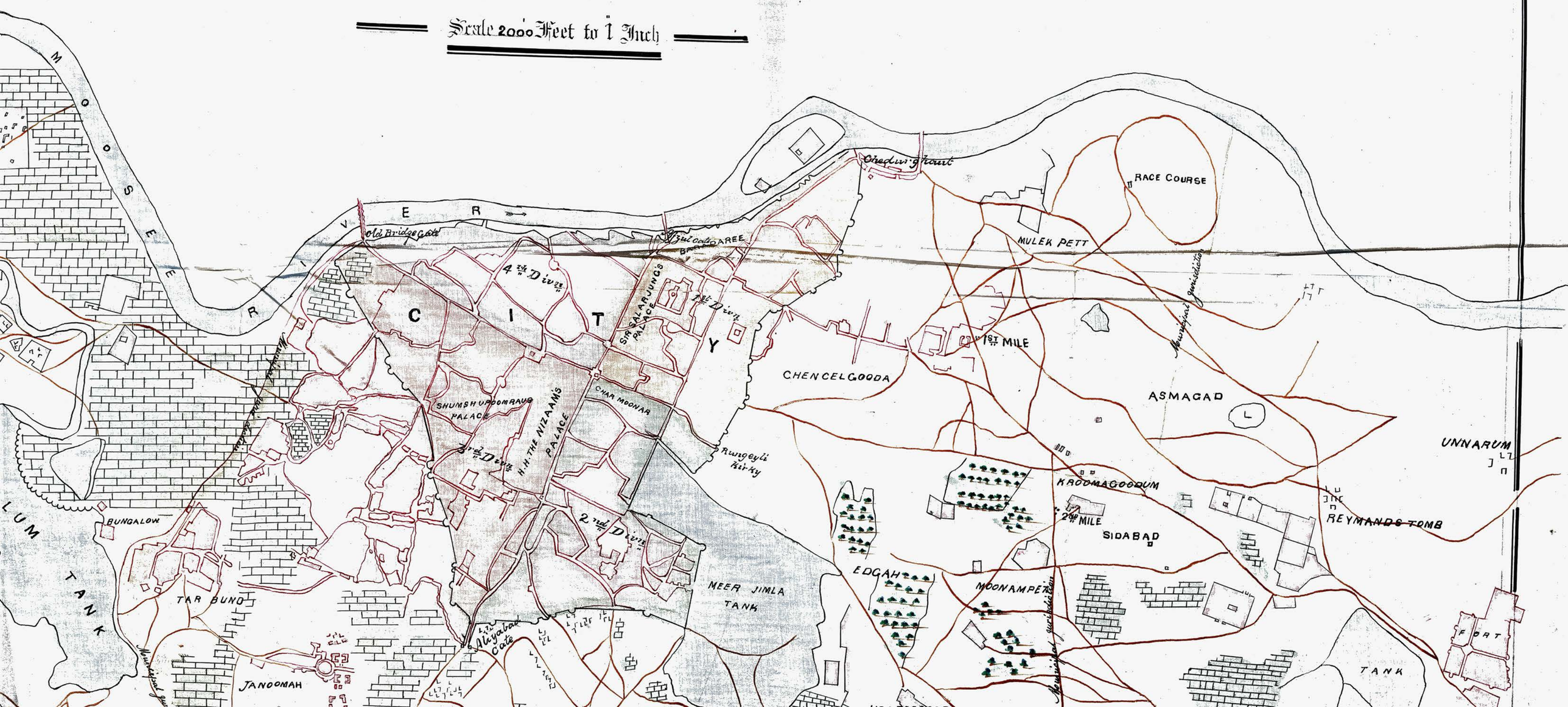
Health Officer

City & Suburbs

Hyderabad Deccan

CITY OF HYDERABAD

Scale 2000 Feet to 1 Inch



C I T Y

MEERALLUM TANK

BUNGALOW

TAR BUND

Municipal jurisdiction

JANOOMAH

H.H THE NIZAM'S BUMB

Aliyabad Gate

SHUMSHUDDOWLAHS PALACE

2nd Dist.

H.H. THE NIZAMS PALACE

CHAR MOONAR

SIR SALAR JUNG'S PALACE

Aliyabad Gate

Municipal jurisdiction

MEER JIMLA TANK

Municipal jurisdiction

VADIPALLY

NAWAB VECARUL OOMRAHS PALACE

JANGUMET

CHENCELGOODA

1st MILE

ASMAGAD

KROOMAGOODUM

2nd MILE

SIDABAD

EDGAH

MOONAMPET

HOOPOOGOO

3rd MILE

CHUMPAPETT

4th MILE

5th MILE

6th MILE

CHENDAROYEN GOOTTAH

BALAPOOR

KURNOOL ROAD

8th MILE

9th MILE

7th MILE

Municipal jurisdiction

Municipal jurisdiction

Municipal jurisdiction

Municipal jurisdiction

REYMA

Area

City 3.84 Sqr Mile

Suburbs 17.11 "

M.B.C.M.B.S & E div F.

Health Of

City